

Today's Topics:

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license
Licensing Philosophy?
New ICOM toys?
No more CW for HF licence ??
Ultrasonics.

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>

Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>

Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 9 Apr 91 16:13:55 GMT
From: sbi!pivot-nj!malta!kevinr@uunet.uu.net
Subject: "Stray Voltage" on 60 Minutes
To: info-hams@ucsd.edu

In article <9104081906.AA22031@ucsd.edu>, wmartin@stl-06sima.army.mil (Will Martin) writes:

> There was a 60 Minutes segment the night of Sunday, 7 April, that dealt
> with the problems caused to several dairy farmers by a power-company-
> caused condition called "stray voltage".
> They used the "stray voltage" term roughly
> equivalently to saying "evil vapors" or some other archaic phrase to
> describe the cause of sickness.

I tuned in in the middle of the segment, so I missed any expalation that
may have been given. I too found their use of the term "stray voltage"
to be archaic, however, they did show literature produced by the power
utilities for farmers that used this same term. This tended to show that
the power companies used the same toerm to identify a real condition.

If anyone knows what this is, please post.

Date: 9 Apr 91 20:41:35 GMT
From: swrinde!mips!samsung!news.cs.indiana.edu!ux1.cso.uiuc.edu!phil@ucsd.edu
Subject: "Stray Voltage" on 60 Minutes
To: info-hams@ucsd.edu

wmartin@stl-06sima.army.mil (Will Martin) writes:

>There was a 60 Minutes segment the night of Sunday, 7 April, that dealt
>with the problems caused to several dairy farmers by a power-company-
>caused condition called "stray voltage". Unfortunately, this being mass-
>market TV, there was absolutely no coherent technical explanation of
>what they were talking about. They used the "stray voltage" term roughly
>equivalently to saying "evil vapors" or some other archaic phrase to
>describe the cause of sickness. Does anyone on the net know the details
>of what this is all about, and can you post an explanation?

>(To those who ask "why is this on the hams list?", I say: a) because
>I know of no other mailing list devoted to electrical/electronic
>topics, and b) because whatever these ill effects might be, the
>mechanism described sounded a lot like what happens in a poorly-grounded
>ham shack, with RF appearing in unwanted places causing undesired
>effects; admittedly, they only were speaking of 60Hz and not RF in the
>program, but the situation appears to be parallel.)

The places could be sci.bio, sci.electronics, sci.physics, and maybe others
like talk.environment. Hams DO read those groups as well. I'll let those
in the other groups help narrow down where this topic should be discussed.

--
/*****\

/ Phil Howard -- KA9WGN -- phil@ux1.cso.uiuc.edu	\
\ Lietuva laisva -- Brivu Latviju -- Eesti vabaks	/
*****/	

Date: 9 Apr 91 21:31:48 GMT
From: pa.dec.com!shlump.nac.dec.com!ggone.enet.dec.com!pierson@decwrl.dec.com
Subject: "Stray Voltage" on 60 Minutes
To: info-hams@ucsd.edu

In article <202@malta.sbi.com>, kevinr@malta.sbi.com (Kevin Redden) writes...
>In article <9104081906.AA22031@ucsd.edu>, wmartin@stl-06sima.army.mil (Will
Martin) writes:

>> There was a 60 Minutes segment the night of Sunday, 7 April, that dealt
>> with the problems caused to several dairy farmers by a power-company-
>> caused condition called "stray voltage".

>> They used the "stray voltage" term roughly
>> equivalently to saying "evil vapors" or some other archaic phrase to
>> describe the cause of sickness.
>
>I tuned in in the middle of the segment, so I missed any expalation that
>may have been given. I too found their use of the term "stray voltage"
>to be archaic, however, they did show literature produced by the power
>utilities for farmers that used this same term. This tended to show that
>the power companies used the same toerm to identify a real condition.
>If anyone knows what this is, please post.
Chure. I even read about it years ago. Funny how 60M discovers these
things. Look at a UL spec under leakage current. Look up hospital
requirements for leakage current for medical electronics. Its a real
problem. (someone in sci.electronics seemed to work for a utility,
and work next to their "leakage current expert". watch this space...) Its
a known problem in electricity use on the farm, the most mystifying
thing, to me, is that took those involved so long to identify the
problem.

thanks

dave pierson |the facts, as accurately as i can manage,
Digital Equipment Corporation |the opinions, my own.
600 Nickerson Rd
Marlboro, Mass
01752 pierson@cimnet.enet.dec.com
"He has read everything, and, to his credit, written nothing." A J Raffles

Date: 9 Apr 91 19:42:34 GMT
From: news-mail-gateway@ucsd.edu
Subject: A Daylight Savings Time question
To: info-hams@ucsd.edu

> Candidates for the "latest" time zone in the world are
>the Western Aleutian Islands and the Western Hawaiian Islands (what
>about the military base on Midway?), shown on some maps as -11 and
>on others as -10. The Western Hawaiian Islands would not observe
>Daylight Savings Time, although the Aleutians probably would.
>
> Does anyplace use -12? I don't think so.

According to the OAG, Kwajalein (Pacific Islands Trust Territory)
has an offset of -12. No DST is indicated. The OAG also says
that the time at 1200 GMT is 00:01, ie a 1 minute offset!

Date: 9 Apr 91 17:48:09 GMT
From: news-mail-gateway@ucsd.edu
Subject: Heathkit - End of an Era?
To: info-hams@ucsd.edu

I just confirmed this information with the Heath Company (aka Heathkit) and thought the net might be interested in what I learned.

The traditional Heathkit catalog will no longer be published. They now have "HomeWorks by Heathkit" which has a few of their current kits in it along with most of their educational products.

They are getting out of the Amateur Radio business, which was evident by the 25% to 45% sales prices in the "special flyer" I received this weekend. The flyer came in another Heath catalog called "Home Automation by Heathkit" which is all assembled products from other manufacturers such as BSR's X-10 wireless control system.

The lady who took my order told me that they are dumping all of the kit business with the exception of the "High Demand" items like the GCA-1000 Most Accurate Clock and the ID-5001C Weather Station. She said they are constantly on back-order for these items. I know that when I bought my GCA-1000 several months ago it took almost 6 weeks to get (Next Day Air!) as it was back-ordered with three separate ship dates (they kept slipping).

It is unfortunate that they are dropping the majority of their kits. I have built several over the past 15 years and they have been an effective way of keeping my interest in hardware in this software based world we have today.

Well I hope that this information is helpful... Buy those kits now before Heathkit becomes some obscure name at some upcoming Ham Swap Meet that only us "Old Timers" remember...

Tony Bamberger, N6TYG

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+-----+
| Tony Bamberger   | UUCP:      {ames,sun,apple,leadsv}!excelan!tonyb |
| Novell Inc.      | Internet:  tonyb@novell.com                       |
| Engineering Dept. | Packet:    N6TYG @ N6LDL.#NOCAL.CA.USA.NA         |
| 2180 Fortune Drive | TCP/IP:    [44.4.2.24] tony@n6tyg.ampr.org         |
| San Jose, CA. 95131 | Voice:     (408) 473-8469 FAX: (408) 433-9827      |
+-----+
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Date: 9 Apr 91 20:21:46 GMT
From: decrcrl!news.crl.dec.com!shlump.nac.dec.com!yacht.enet.dec.com!
gettys@decwrl.dec.com
Subject: IC-W2A multi-digit MHZ entry procedure
To: info-hams@ucsd.edu

More stuff on the IC-W2A - Thanks to Paul for this part which is REQUIRED for the next step!!

This is less of a mod than it is a function. To expand the receiver frequency range of the new Icom IC-W2A to 118.00-170.00, 322.00-513.00, and 800.000-970.000, do the following:

- o Hold down the Light, B, and # keys while turning the power on.

That's actually a four button sequence, since power on is controlled by a keypad button.

--

73, Paul

From the shack of Paul MacDonald! Packet Radio: WA10MM@KB4N.NH.USA
/ / \ / / ~ / \ \ \ \ \ \ / \ (~ / / / / \ \ / / /
\ \ / ~ \ / / _ / / / / ~ / V / ~ \) / ~ / _ / ~ \ , / V / ~ /

Now for the added part - multi-digit entry for mhz

After doing the above, REQUIRED!!

select the VHF band as MAIN
push F (above the PTT button) and SET (the 8 button)
then using the ^/SCAN button make the lower right symbol of the band say PL
rotate the right knob to set the display to 1,10, or 100 as desired
1 sets entry to single digits only
10 sets entry to 10's and single digits
100 sets entry to all digits

hit PTT

Now - repeat the above for the UHF band - Note It WILL NOT work unless you do it for BOTH bands.

You now have a walkie that requires all the digits (assuming you chose 100) to program it's frequencies.

/s/ Bob Gettys N1BRM

Date: 9 Apr 91 18:22:01 GMT
From: swrinde!mips!apple!kchen@ucsd.edu
Subject: Keyers
To: info-hams@ucsd.edu

MOSIER%UNCG.BITNET@ncsuvn.ncsu.EDU (Steve Mosier) writes:

>By the way, does anyone have a good circuit for a substantial code practice
>oscillator with pitch and volume controls, room-filling volume, and AC power
>for code classes, or know of a good commercial unit out there?

When I was studying for my morse exam, I rigged up a little
RF oscillator and keyed that (using a pin on a parallel port
on a PC). The oscillator output is injected into the antenna
spoggot of a receiver.

The receiver now acts as the variable pitch and variable volume
code practice "oscillator."

And, if you want to add some QRM for realism, just couple in some
RF from 14.313 too :-) :-). Couldn't find a way to emulate QSB,
though.

73,

Kok Chen, AA6TY
Apple Computer, Inc.

kchen@apple.com

Date: 9 Apr 91 15:00:06 GMT
From: mcsun!ukc!warwick!esrlb@uunet.uu.net
Subject: keyers
To: info-hams@ucsd.edu

To add to the discussion about keyer conventions, and as a point of general
interest, I noticed that in the USSR the CW ops (both amateur and those
professional guys on the Aeroflot Arctic flights) used their keys 'the
other way round', i.e. with right-hand - index finger = dits. Many ops sent
using their left hand so that they could write with their right at the same
time for contests etc which they are into there in a big way (it's
necessary to have obtained certain proficiency in contests to advance through
the licence scale, technically at least - although the odd bottle of vodka has

been known to alleviate some of the more formal requirements!). Again with the left, index finger sent dits. I was told by Dima, UA3AGW, an avid DX-er, that the index finger is more 'agile' than the thumb and hence is more suited to sending dits leaving the sluggish thumb with the dahs. Having seen the man put a single-paddle key through it's paces I would not dare to disagree with him.

Iambic operation was nowhere to be seen over there, most people used single paddles. Fortunately, I had learnt to send in the way the Soviets do when I set out a few years ago on CW, then changed having learnt that it was not the conventional way to send. As a result, with a few minutes practice and variable amounts of utter confusion I now find I can send both ways, which was essential when it came to using the Soviet gear at the club stations in Moscow and as UA0/G0GWA on Sredniy Island. Paul, G0KPH, however was limited to 'conventional iambic operation' and could only use his own keyer, so had to do more SSB than he would have liked.

I suppose the moral of the above is to be prepared for all eventualities; learn to send with both hands, iambic, non-iambic and both ways round. If you can do that you'll be ok (and deserve an award), only wish I could - I've never learnt how to use iambic!

Simon - G0GWA

Telecomms Lab, Warwick University.

Date: 9 Apr 91 21:40:59 GMT
From: sdd.hp.com!zaphod.mps.ohio-state.edu!rphroy!rinhp825.gmr.com!
vbreault@ucsd.edu
Subject: keyers
To: info-hams@ucsd.edu

Well.... I'm one of those that needs to use a pencil. I have only recently begun to attempt to learn Morse code. I find that it takes ALL of my concentration to remember the sound of the letter I've just heard. Remembering the previous N letters is QUITE beyond me ... for now. Given that I must use a pencil and given that I am right handed then I believe that learning to send CW with the left hand must be the best choice. As to whether or key dots with the finger or thumb, I don't think I've seen much in the way of a 'usually accepted norm', so I'll just use what feels comfortable.

Thanks to all who offered me advice. I'll be asking for more real soon.

Val Breault (N8___ <-- 2.5 weeks and counting)
vbreault@gmr.com

Date: 9 Apr 91 20:36:41 GMT
From: usc!wuarchive!m.cs.uiuc.edu!ux1.cso.uiuc.edu!phil@ucsd.edu
Subject: license
To: info-hams@ucsd.edu

bh@eng.auburn.edu (Brian Hartsfield) writes:

>I passed my nocode tech license 2 weeks ago (I am working on the code so I
>can upgrade, but I'm going to wait until I get 13 WPM and go straight for
>advanced, but that's another story). Anyway, how long does it normally
>take for the FCC to process and mail back your license? Second, if I do

6-12 weeks.

>just pass the 5WPM, do I have to use the /KT if I am going to communicate
>on HF bands?

No. Your no-code Tech license PLUS your 5 WPM CSCE constitute your final
combination of license class documentation.

If your dog eats your TECH license, you can get a replacement from the FCC.
But if your dog eats your CSCE, getting that replaced might be quite difficult.
DO NOT LOSE IT!!!

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/*****\
/ Phil Howard -- KA9WGN -- phil@ux1.cso.uiuc.edu      \
\ Lietuva laisva -- Brivu Latviju -- Eesti vabaks      /
\*****/
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Date: 9 Apr 91 18:35:02 GMT
From: cgs@umd5.umd.edu
Subject: Licensing Philosophy?
To: info-hams@ucsd.edu

In article <7880450@hpfcdc.HP.COM> perry@hpfcdc.HP.COM (Perry Scott) writes:
|||This is interesting; however, there is no law against any CBer building a
|||transmitter and operating it on a valid CB frequency. [...]
||
||Bravely stated, but 100% wrong.
|You can't run a non-type-accepted CB on CB bands - that's the law.

But one may still run Part 15 equipment on CB bands (dust off those old
walkie-talkies).

If this is still true (I believe this is so), then a CBer may very well build a Part 15 transmitter and operate it on a valid CB frequency, or any valid Part 15 frequency, for that matter!

--

Toves: Animals something like badgers, lizards, and corkscrews

-- ARPA: cgs@umd5.UMD.EDU BITNET: cgs%umd5@umd2 --

-- UUCP: ..!uunet!umd5.umd.edu!cgs --

Date: 9 Apr 91 17:51:21 GMT

From: usc!sdd.hp.com!hp-col!col!kenw@ucsd.edu

Subject: New ICOM toys?

To: info-hams@ucsd.edu

Let me revise my earlier posting... Change IC-W1 to IC-W2.

My mistake. Ham Radio Outlet (Denver) has a demo unit, but I have not seen it yet. Earlier postings have described the expanded receive range (look in the old rec.ham-radio for this). The reciever can be expanded using the (standard now?) Icom key sequence of "B-Light-#-turn on radio". Range is reported to be 60-999 MHz nearly continuous. The W2A uses the same accessories as the IC-24AT, which leads me to believe that the 24AT is not long for this world.

Date: 9 Apr 91 20:25:58 GMT

From: usc!wuarchive!m.cs.uiuc.edu!ux1.cso.uiuc.edu!phil@ucsd.edu

Subject: No more CW for HF licence ??

To: info-hams@ucsd.edu

yu3fk@ijs.ac.mail.YU (Iztok Saje, IJS-E1, YU3FK) writes:

>Back to CW:

>Facts:

>- CW is obsolete now.

Less preferred. It depends on the circumstances and what one is trying to do. CW still has an important place in ham radio. It's just not the ultimate mode for everyone.

>- CW is hard to learn.

False. This no-code petitioner will attest that Morse Code was in fact EASY to learn. The point is irrelevant, though.

>- people HATE CW.

I certainly don't hate it. I know lots of people who love it.

>- there is small number of people definitely UNABLE to learn CW.
> (info from some research done by German Wermacht back in 40ies)

I've run into a few of them.

>- a lot of would-be HAMS do not become HAMS because of CW.

Because of CW tests.

>- etc etc.... We all know reasons AGAINST CW.

I suppose.

>Now, some more facts - with no relation to CW.

(still waiting for some REAL facts)

>HAM bands are something fantastic ! We share several MHz of
>very very needed resource. And, we must respect this possibility.
>Also, HF can not handle infinite number of HAMS - we already

None can. We do need to figure out how to handle more.
Technology AND good operators can do this.

>have congestion troubles on HF bands. If we just let everybody
>go to HF, bands will become crowded, there would be no respect
>for HF etc. (Like CB, isn't it ?)

Agreed.

>So, it is clear, we need some "filters" for getting
>HF licence. We want diferent people to become HAMS: children,
>seniors, kings, workers.... everybody who really want to
>become HAM and who really respect our hobby. Those who relly
>worked hard to get license are those who respect bands.
>For example, an Electronic engineer
>who learned CW during military service can get his FCC extra with
>no more than 12 hours spend, including exams !. 20 m is just
>like 11m for him...

>So - how to make filters ? Who is OK to go to HAM bands ? Who is NOT ?
>Is this money ? General knowledge ? Specific knowledge ?
>Party membership ;-) ?

Desert Storm service? ;-)

>Money:

>Ok. But - how many students can become HAMS if this is expensive ??

>But, professional licences can be bought anyway - there are OTHER

>licences available for money.

Not a good choice.

>General knowledge:

>Ok. But there is a trick - everybody with technical education

>can pass very simple... But others are blocked. No more 12 years old

>HAMS.

Silly.

>Specific knowledge:

>Seems better. If we request knowledge that is not given in schools -

>then anybody should LEARN to get licence. That means WORK for licence.

>That means respect licence once it is here. And, it is same for

>Ph.D as to 12 year old child. But - which knowledge is specific to

>HAM radio ?

>- Q code, prefixes, operating practice, contesting

> [I was surprised to found out it is not needed for W/N/K HAMS..]

You either LEARN it by using it, or you MEMORIZE by NOT using it.

We tend to prefer the latter.

>- HAM technics - antennas, satelllites,microwaves etc.. But this is

> covered in General knowledge, is't it ? Tests for FCC Extra are

> very much like exams on EE schools.

Not really.

>- CW. Everybody can learn. Everybody should work hard to learn.

> It is very easy to test knowledge.

Not necessarily.

>I am shure this is a reason why CW was introduced 60 years ago as

>"filter" to HAM licences. It has worked very well. It is still

I would beg to differ. 60 years ago virtually ALL radio communications was in CW, and the test was simply one to determine if you were able to do it or not. You had to learn some minimal amount of code in order to even get on the air.

They didn't think of it as a filter. The bands were NOT crowded. There was NO CB mentality. There were no "ham traditions". It was a PRACTICAL

EXAM for the period.

>working fine. It will work, if we let it do the job. HAMS could
>operate AM in thirties - So there was no need to force CW just
>because it was necessary.

The job it will do is to select good CW operators. That's what it did
60 years ago and that is what it will still do today.

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+-----+  
| THE PROBLEM IS THAT GOOD CW OPERATORS IS NO LONGER WHAT WE NEED !!! |  
+-----+
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>Up to now, I have not heard of better filter. It is equall to
>all HAMLETS; it makes no big difference between 12 years old child
>and Ph. D.;it is well known how and where to learn; it is very
>easy to test.

The CW test is a filter that filters out non-cw-operators. That is what
it is and what it always has been.

>And, to all those new times boys who do not agree:
>Nothing happened on HF since thirties... No big fun, everything
>is just like it used to be 60 years back (replace SSB with AM, please !).
>DXing is old... RTTY is obsolete... CW is dying... SSB is noisy...
>packet is awfull... No real fun on HF ! So, do not learn CW, do not
>get HF licences -> go to microwaves, action is overthere !
>And, please let us oldtimers enjoy our nice CW and nice HF !

There is action, or there needs to be action, on ALL the ham bands.

I personally am NOT ready to see the HF bands opened up for just anyone
to get on. They are crowded now and there are problems. But I still
cannot justify the code exam for an HF license; I am just willing to
put off changing things for a while to give us a chance to find ways to
solve the problems (the CW test is NOT a solution). If no effort is
made to solve the problems, eventually there ****WILL**** be an HF NO-CODE
license whether we like it or not.

>73, Thanks for reading my QRM
> Iztok, YU3FK

>yu3fk@ijs.ac.mail.yu
>yu3fk%cathy@yubgef51.bitnet

>YU3FK @YT3A.YUG.EU

>Iztok Saje, Vidmarjeva 7, 61000 Ljubljana, YU

>CW op since 1973 (YU3APR club), licenced since 1975, packet since 1986,
>reading Info-HAMS since April 1991 <*v*>

So I guess that means you missed all the arguments about why there should not longer be a CW Morse Code test. I suppose that needs to be part of a FAQ? Or maybe a FDI (Frequently Debated Issues).

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/*****\
/ Phil Howard -- KA9WGN -- phil@ux1.cso.uiuc.edu \
\ Lietuva laisva -- Brivu Latviju -- Eesti vabaks /
\*****/
```

Date: 9 Apr 91 06:15:01 GMT
From: usc!zaphod.mps.ohio-state.edu!uakari.primate.wisc.edu!aplcn!jhunix!
ins_atge@ucsd.edu
Subject: Ultrasonics.
To: info-hams@ucsd.edu

In article <04.Apr.91.16:07:10.BST.#3428@UK.AC.NWL.IA> PJML@ibma.nerc-wallingford.ac.UK (Pete Lucas, NCS-TLC, Holbrook House, Swindon) writes:
>I know of someone who once made an ultrasonic down-converter and hooked it
>to a number of different ultrasonic transducers (the sort you get from
>doppler burglar-alarms).

I made one of these for a class project, but was unable to find ultrasound sensors which had any kind of interesting bandwidth for studying animal ultrasound (yep, I actually read up on it).
What kind of bandwidth do these doppler buglar-alarm sensors have?

-Tom

Date: 9 Apr 91 18:20:34 GMT
From: haven!wam.umd.edu!rustyh@purdue.edu
To: info-hams@ucsd.edu

References <1991Apr5.144823.2094@ux1.cso.uiuc.edu>, <2701@ke4zv.UUCP>,
<1991Apr9.145118.24707@ux1.cso.uiuc.edu>
Subject : Re: Antenna Matching Gedanken Experiment

In article <1991Apr9.145118.24707@ux1.cso.uiuc.edu> sc80@ux1.cso.uiuc.edu (sc Student) writes:

>

>Sure it's a load. Try pumping power into the feed line at the antenna end.

>Then measure what
>happens at the transmitter final. That's just what a high VSWR does. That is
>real power being reflected, and it will raise the voltage on the plate or
>collector.
>
>True, the equivalent resistance is somewhat fictitious, but the power is
>very real, ie. plate voltage times plate current equals DISSIPATION. Try
>tuning your tube rig to maximum output on CW into a perfectly matched load
>at the antenna. Then mismatch the load to above 3:1 and watch those little
>babies turn red and melt down. That's REAL power being absorbed by a real
>resistor (plate).
>

I think we are badly served by this concept that reflected power is
is dissipated in the amplifier and causes damage. The ONLY effect of
the reflected power is to give a bad load to the amp. Since the
transmission line and antenna are linear devices we can simply replace
them by a two port that represents the equivalent impedance seen by the
antenna. So our thinking is now not burdened by the baggage of
"reflected power". A bad match at the antenna is simply transformed
(as we travel around the Smith chart) to a possibly bad load at the
amplifier. A 3:1 SWR on the line may present a whole array of loads
to the amplifier. SOME will be of a lower impedance than the amplifier
was designed to operate into, others with low reactive loads may
also cause damage but some with higher impedances won't hurt the
amp.

The reflected power idea is useful in thinking of the voltage and
impedance variations as we travel down the line because we can use
the idea of an incident signal added to the reflected signal of
differing phases. Superimposing the two will give us our standing wave.

Here is something else to think about:

Take a 50 ohm source impedance generator and an arbitrary length of
50 cable. Connect to it a half wavelength of 300 ohm cable.
Then connect to that another arbitrary length of 50 cable and a 50
load. The SWR on the 50 sections will be 1:1 but the SWR on the
300 ohm section will be high! The only effect of the "reflected"
signal on that line is to modify the impedance and voltage in that
section!

--

Michael Katzmann (VK2BEA/G4NYV/NV3Z) Please email to this address |
Broadcast Sports Technology |
2135 Espey Ct. #4 \\\/
Crofton MD 21114-2442 (301) 721-5151 ...uunet!opel!vk2bea!michael

